1　WHAT IS CLAIMED IS:

2　1.　A method of data object transformation, the method including:

3　receiving a message from a communications line, the message including

4　one or more data objects of a first object type, wherein the message is in a first

5　communications format;

6　converting the message from the first communications format to a

7　second communications format;

8　converting the one or more data objects from the first object type to a

9　second object type, wherein the one or more data objects are converted using

10　a first set of one or more transformation classes, each of the one or more

11　transformation classes generated using mapping rules; and

12　transmitting the converted one or more second object type data objects

13　to an application.

14　2.　A method according to claim 1, wherein the communications line is

15　messaging middleware, and the first communications format is a middleware-

16　dependent format, and the second communications format is a middleware-

17　independent format.

18　3.　A method according to claim 1, wherein each of the one or more data

19　objects is a Java object.

20　4.　A method according to claim 1, wherein the first object type is a domain

21　object model type and the second object type is an application-specific object

22　model type.

23　5.　A method according to claim 1, further including:

24　registering the application with the communications line; and

25　transmitting high-level function calls to the application.

26　6.　A method according to claim 1, the method further including:

27　receiving a second message from the application, the second message

28　including one or more data objects of the second object type;

29　converting the one or more data objects from the second object type to

30　the first object type, wherein the one or more data objects are converted using

31　a second set of one or more of the transformation classes;

1   generating a communications line dependent message, the

2 communications line dependent message including the converted one or more

3 first object type data objects; and

4   transmitting the communications line dependent message to the

5 communications line.

6 7. A method according to claim 6, wherein the communications line is

7 messaging middleware, and the first communications format is a middleware-

8 dependent format, and the second communications format is a middleware-

9 independent format.

10 8. A method according to claim 6, wherein each of the one or more data

11 objects is a Java object.

12 9. A method according to claim 6, wherein the first object type is a domain

13 object model type and the second object type is an application-specific object

14 model type.

15 10. A method according to claim 6, further including:

16   registering the application with the communications line; and

17   transmitting high-level function calls to the application.

18 11. A method of data object transformation, the method including:

19   generating a first object model and a second object model, the first

20 object model including a plurality of data objects of a first object type, and the

21 second object model including a plurality of data objects of a second object

22 type;

23   storing the first and second object models in one or more memories;

24   generating transformation mapping rules;

25   generating a plurality of transformation classes using the first and

26 second object models and the transformation mapping rules;

27   receiving one or more data objects;

28   converting the received one or more data objects, using the

29 transformation classes, from (1) the first object type to the second object type;

30 or (2) from the second object type to the first object type; and

31   transmitting the converted one or more data objects.

1   12.   A method according to claim 11, wherein each of the one or more data

2   objects is a Java object.

3   13.   A method according to claim 11, wherein the first object model is a

4   domain object model and the second object model is an application-specific

5   object model.

6   14.   A method according to claim 11, wherein the first object type is a domain

7   object model type and the second object type is an application-specific object

8   model type.

9   15.   A method according to claim 11, wherein the one or more data objects

10   are receive from messaging middleware.

11   16.   A method according to claim 11, wherein the one or more data objects

12   are receive from an application, the application coupled to a communications

13   line.

14   17.   A system for data object transformation, the system including:

15   one or more processors;

16   one or more memories coupled to the one or more processors; and

17   program instructions stored in the one or more memories, the one or

18   more processors being operable to execute the program instructions, the

19   program instructions including:

20   receiving a message from a communications line, the message

21   including one or more data objects of a first object type, wherein the

22   message is in a first communications format;

23   converting the message from the first communications format to a

24   second communications format;

25   converting the one or more data objects from the first object type

26   to a second object type, wherein the one or more data objects are

27   converted using a first set of one or more transformation classes, each

28   of the one or more transformation classes generated using mapping

29   rules; and

30   transmitting the converted one or more second object type data

31   objects to an application.

1   18.   A system according to claim 17, wherein the communications line is

2   messaging middleware, and the first communications format is a middleware-

3   dependent format, and the second communications format is a middleware-

4   independent format.

5   19.   A system according to claim 17, wherein each of the one or more data

6   objects is a Java object.

7   20.   A system according to claim 17, wherein the first object type is a domain

8   object model type and the second object type is an application-specific object

9   model type.

10   21.   A system according to claim 17, wherein the program instructions further

11   include:

12   receiving a second message from the application, the second message

13   including one or more data objects of the second data format;

14   converting the one or more data objects from the second object type to

15   the first object type, wherein the one or more data objects are converted using

16   a second set of one or more of the transformation classes;

17   generating a communications line dependent message, the

18   communications line dependent message including the converted one or more

19   first object type data objects; and

20   transmitting the communications line dependent message to the

21   communications line.

22   22.   A system for data object transformation, the system including:

23   a communications line;

24   a transformation adapter coupled to the communications line, the

25   transformation adapter including:

26   an assembly/disassembly layer configured to convert messages

27   from a first communications format to a second communications format;

28   a transformation layer configured to convert data objects from a

29   first object type to a second object type using one or more

30   transformation classes; and

31   a method invocation layer;

1   a transformation class generator coupled to the transformation adapter,

2   the transformation class generator configured to generate the one or more

3   transformation classes using transformation mapping rules; and

4   an application coupled to the transformation adapter, wherein the

5   application transmits data to and receives data from the method invocation

6   layer.

7   23.   A system according to claim 22, wherein the communications line is

8   messaging middleware.

9   24.   A system according to claim 22, wherein each of the one or more data

10   objects is a Java object.

11   25.   A system according to claim 22, wherein the first object type is a domain

12   object model type and the second object type is an application-specific object

13   model type.

14   26.   An apparatus for data object transformation, the apparatus including:

15   means for generating a first object model and a second object model,

16   the first object model including a plurality of data objects of a first object type,

17   and the second object model including a plurality of data objects of a second

18   object type;

19   means for storing the first and second object models;

20   means for generating transformation mapping rules;

21   means for generating a plurality of transformation classes using the first

22   and second object models and the transformation mapping rules;

23   means for receiving a one or more data objects;

24   means for converting the received data objects, using the transformation

25   classes, from the first object type to the second object type; and

26   means for transmitting the converted one or more data objects.

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